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THE UNEXPLORED FRONTIERS OF NUTRITION IN THE 1980'S

Looking ahead to the unexplored frontiers of nutrition in the 1980s, I see the U.S. Department of Agriculture developing a twofold approach.

First we will be researching the hard questions remaining in human nutrition.

Second, we will be doing a better job of educating the public about nutrition.

At USDA we see eight top-priority questions for human nutrition research for the 1980s. They represent a consensus among several recent major human nutrition studies.

The first researchable question is: What should persons eat?

Answers on major diet deficiencies have been relatively easy to obtain. We already have learned enough to control major nutritional deficiency diseases in the United States. You might say we have answered the easy questions. We have, in a sense, "skimmed off the cream" in certain branches of human nutrition research. What remains is to find the answers that are more elusive and require innovative research methods to obtain.

We need research on the nutrition requirements of persons in all stages of life. Particularly crucial are requirements for the prenatal stage, for 6-to 23-month-old infants, pre-school youngsters, adolescents, women of childbearing age, and the aged.

More information is needed on how nutrition relates to intellectual and emotional growth, pregnancy, lactation, menopause, and work.

Studies need to be conducted that will relate the level of nutrient intake to the prevention and moderation of degenerative processes. They should show us the effect of vitamin and trace element supplementation on the physical performance, health, and well-being of the elderly.

Remarks prepared for delivery by Dr. M. Rupert Cutler, Assistant Secretary of Agriculture for Conservation, Research, and Education, at the National Institute of Health Conference "The Research Basis of Clinical Nutrition: A Projection for the 1980's," Bethesda, Maryland, June 20, 1978 at 10:15 a.m. EDT

We need to identify the nutrients required for various levels of work function and performance. With such information, an individual could select a diet to fit the work needs for a day, a week, or a year -- and vary that diet as the needs change. Such a diet would not only save food expenses, but also would improve performance at work and at leisure.

Research is needed on obesity, the most widespread nutritional disorder in the U.S. Obesity is a primary risk factor for diabetes and cardiovascular disease. Currently, about 30 percent of middle-aged American males and 40 percent of the females are considered obese.

Despite the magnitude of this problem the fundamental causes remain obscure. The public spends large sums on diet foods and weight reduction schemes and has poor understanding of the basic mechanisms, benefits, and risks.

The second and third researchable questions are:
What are people actually eating, and how does this affect their nutritional health?

American supermarkets today offer consumers the opportunity to choose from among some 11,000 different products. New products are introduced almost daily. Other products disappear from the shelves. Our food supply is a kaleidoscope of constantly changing packages, products, formulas, and conveniences.

The result is that people's eating patterns are likely to be changing faster than we can monitor them with present techniques. Therefore, the first order of business is to revise the methods we use to find out what individuals eat, and find new ways to measure the nutritional impact.

Presently, the Federal Government uses two principal means of monitoring American diets.

First is the National Food Consumption Survey conducted once every 10 years by the Department of Agriculture.

The second principal method of monitoring diets and nutrition is the Health and Nutrition Evaluation Survey (HANES), conducted by HEW's National Center for Health Statistics, with help from the Center for Disease Control. It provides historical, laboratory, and clinical data on the health and nutrition status of a sample of 30,000 individuals.

There are serious limitations in both the methods and the timing of the surveys. A 10-year interval between USDA's food consumption surveys is too long to keep up with today's rapid changes in foods and eating habits. It also means the survey does not mesh with the more current nutrition data of the HANES survey.

So the Food and Agricultural Act of 1977 directs both our departments jointly to develop a comprehensive nutritional monitoring program.

What is wanted is a national monitoring system that will cover nutritional status, nutritional quality of the food supply, dietary practices, nutrition knowledge and attitudes, and food and nutrition program effectiveness.

We want a system that will in effect ring a bell when Federal nutrition intervention is warranted.

The system also has to supply information that will help determine what kind of intervention is needed.

The proposed system will include monitoring of nutrients in foods and food groups. It would provide new data to USDA's Nutrient Data Bank. It also would broaden coverage of total diet studies such as the "Market Basket Survey."

It would analyze meals offered as fast foods and TV dinners.

Most importantly, it would integrate the information from USDA's National Food Consumption Survey (NFCS) and HEW's Health and Nutrition Examination Survey (HANES).

If the proposed integration is implemented, our survey -- NFCS -- would collect data every 5 years instead of 10 -- to make the data more timely.

The fourth question is: What factors actually shape people's eating habits?

Efforts to formulate national nutritional policies or to design intervention programs, educational programs, or possible regulatory actions need to be based on knowledge of the factors affecting consumer choices.

These factors include price, income, family size and composition, advertising and packaging, labeling, wholesale and retail marketing practices, convenience of preparation, education, health status, and individual and family attitudes.

We should identify factors most readily influenced by education and information.

We should focus on eating habits of such vulnerable groups as pregnant women, infants, and the elderly.

The fifth question is: What happens to our food from its origins on the farm until we eat it, and how do all the steps in between affect the safety, quality, and nutritional value of our diets?

Data is lacking on the amounts of important nutrients that occur in various foods. Much of the current information is obsolete because of changes in agricultural production, because of the introduction of new varieties and processing methods, and because of new storage and transportation facilities.

Here are the research needs:

- (1) Investigation of the factors affecting the ability of people to utilize nutrients in specific foods, as well as factors affecting the chemical form of the nutrient, its relationship to other nutrients, and the presence of inhibitors.
- (2) Study of the nutrient changes in foods that occur after harvest or slaughter and during processing and distribution.
- (3) Determination of the social and economic feasibility -- and nutrient possibilities -- of new or improved food processes.
- (4) Conversion of scientific findings from public and private laboratories into readily useful information for consumers, public agencies, and private businesses and organizations.

We need to develop improved methods for food composition analysis. The methods currently available for analysis of many of the known nutrients are slow and imprecise. For some nutrients, no standard analytical methods exist.

The sixth question is: How do government intervention and nutrition education programs affect the health, nutritional status, and performance of the people they are intended for?

This is one of the most difficult questions to answer. Clearly we need to develop better methodologies for measuring the effectiveness of such programs.

We have a long way to go in designing information programs that effectively combat food and nutrition misinformation, inform the public on food safety, and encourage people to change their food habits. We need to determine which communication tools work best in getting people to modify their food choices.

Priority must be given to designing and carrying out surveys on diet practices to determine which groups in our population are most vulnerable to poor food habits. More work should be done to evaluate alternative food intervention programs and to find better ways to test evaluations of food fortification.

The seventh question is: What are the nutritional effects of agricultural and other U.S. Government policies and regulatory programs?

Currently, there are no studies underway to find the impact of various government policies on the nutritional health of our people. This is an area we must address if we are to arrive at a coherent, comprehensive nutrition policy. It means we must look not just at the government policies directly related to food production and distribution, but also at many others that relate indirectly to nutrition but nonetheless have a profound effect on eating patterns.

More specifically, we need research on the nutritional effects of government activities in establishing and enforcing food grades and standards; packaging, labeling, and advertising requirements; and other measures to regulate marketing practices.

We need to know the nutritional impact of government crop adjustment programs, of our international trade policies, and grain reserves.

How is human nutrition affected by food production strategies, agricultural research and cooperative extension programs, and rural credit services? Beyond those programs directly related to food, we need to look at the effects on nutrition of welfare and other income subsidies, income taxes, manpower policies, health, environmental health, and other general government policies.

We must be particularly concerned about the effects of government policies on those most vulnerable to malnutrition -- the poor, the young, and the elderly.

The eighth question is: What are the special considerations we must take into account in helping to meet the dietary needs of people in other countries?

From 500 million to 1 billion people in this world suffer from extreme malnutrition and hunger. The President's commitment to aid these people makes human nutrition research vitally important.

Our research should assist all countries, but especially those whose people face extreme hardship. Therefore, the design of our studies must take into account a range of circumstances that may differ widely from our own.

This is an imposing set of priority questions. We at USDA are taking steps to find the answers.

We are beginning by giving human nutrition research major emphasis. This year we will spend from \$24 to \$25 million on human nutrition research. In addition, the universities cooperating with us, as well as other cooperators, probably will spend one-half that amount, resulting in a total of \$37 million in this fiscal year for human nutrition research.

We have a new Competitive Grants Research program which includes \$5 million for human nutrition research in FY 1978. The program is open to all researchers -- public and private, government and university.

Within USDA, the chief unit for human nutrition research is our Human Nutrition Center, recently formed as part of our new Science and Education Administration.

It conducts research at eight laboratories in:

- human requirements for nutrients;
- food composition and improvement; and
- food consumption and use.

Also under our new Science and Education Administration (SEA) are:

- Cooperative Research, which funds research at State land grant universities, encompassing nutrition requirements, diet surveys, relation of diet to disease, food composition, and many other areas; and

-- Extension, which supports nutrition education programs across the country through the State and county cooperative extension system.

Beyond SEA, USDA's Economics, Statistics, and Cooperatives Service does research on consumer choices, food consumption, and domestic food programs. And its Food and Nutrition Service supports studies on food program effectiveness.

My rather brief survey of USDA research is far from exhaustive, but it gives you a general idea of some of the steps we are taking now to find answers to the eight priority questions.

One thing I do want to stress: There is a new wind blowing in human nutrition research and education at the U.S. Department of Agriculture.

Nutrition research and nutrition education are no longer taking a back seat at USDA.

What Secretary Bergland told a Senate committee last September set the tone.

He said: "When I entered the Department of Agriculture 8 months ago, I discovered that issues such as meal quality had been largely ignored by policymakers in past administrations. I am determined that such issues be ignored no longer."

Like research, nutrition education is going to get a great deal of additional emphasis at USDA. It is a particularly crucial area. Americans are more aware -- and more concerned -- about eating and health than they've ever been before.

But Americans are not only concerned. They are also confused.

They are deluged by information, much of it contradictory.

They are told America is the best fed nation on the earth.

But then they are told they are eating too much -- that fat kills.

They are told bacon contains nitrates that may cause cancer and that the hamburger contains carcinogens.

The daily menu begins to read like a prescription for slow death.

Yet as all this information comes at them -- from the popular media, from scientists, from doctors, from government -- they are told that a great deal is not really known for certain about nutrition and health.

The result is that the public becomes confused. It also becomes skeptical. This is why nutrition education is crucial. This is why we have to fashion a nutrition education program that Americans have confidence in.

Americans want a source of sound dietary guidance. They want to know more than what not to eat. They want to know what they should eat.

They want to know what part fat, cholesterol, sugar, salt, and fiber play in nutrition. They want to know about foods that are safe. And they want food labeling that is useful. They want a reliable source of information, in a form that is understandable and applicable to their daily living.

They want reliable information that will help them make sense out of the contradictory and confusing messages about nutrition in the popular media.

Americans are especially concerned about such things as food advertising and marketing practices, particularly those aimed at children. I am sure most of you here have children or grandchildren. I hope they were not among the children who watched weekend daytime TV in the first 9 months of 1975, because Robert Choate, president of the Council on Children, Media and Merchandising called TV at that time "edible TV."

I call it an affront to nutrition education.

According to Mr. Choate, a child watching weekend daytime TV in the first nine months of 1975 could have seen 3,832 commercials for cereals -- many of them the heavily sugared kind. This child could have also seen 1,627 other TV commercials for candy and chewing gum.

By contrast this same child would have seen only two commercials for meat and poultry -- and one each for vegetables and cheese.

Mr. Choate adds that a child watching TV "moderately" -- that is, 26 hours a week -- was bombarded with 8,500 to 13,000 food and beverage commercials during the year.

Now where does that leave nutrition education? Facing some pretty stiff competition, I would say.

It leaves us who are concerned about providing sound nutrition education with a big job.

That is why we at USDA are giving high priority to fashioning nutrition education programs that the public can have confidence in and readily apply to daily living.

In FY 1978, the USDA will spend over \$108 million on nutrition education.

Even though there is a great deal we don't know about nutrition and health, there still is a great deal we do know. And we must get what we do know across to the public through education. By this I mean that the information has to be presented in a way that will enable the individual to apply it to his or her particular needs and problems.

Above all, the information has to be practical information the individual can use -- and will use.

And by "education," I mean imparting fundamental knowledge about nutrition. Once the individual knows how the nutritional processes work in the body, he or she can evaluate his or her own diet with a minimum of myth and misunderstanding.

Our approach at USDA in nutrition education is threefold.

First, our Extension and food assistance programs plan to reach low-income consumers directly.

Second, TV and other media will be used to reach a broader public.

And third, the food industry and food growers will be reached through educational materials on food composition and nutrient needs.

They also will be reached through regulatory programs.

That is our general approach.

Here are some specifics.

In our FY 1979 budget, we have requested funding for a mass-media pilot information program.

It will use TV and other mass media to disseminate nutrition messages. It will coordinate nutrition education with our food stamp program, with our child-nutrition "school lunch" program, and with our women, infants, and children program (WIC).

It will get nutrition education into the supermarkets.

It will work with senior citizen organizations, employee health programs, unions, health professionals, consumer groups, and community groups serving low-income people.

Above all, this pilot project will take a coordinated approach -- one that makes sure the messages and nutrition activities reinforce each other.

It will also develop methods to evaluate the effectiveness of nutrition information and education efforts.

It will determine what media techniques and messages, and education activities, singly or in combination, work the best.

It will compare the effectiveness of paid media messages with those of public service announcements.

The pilot project will be set up in four urban and suburban Midwest communities.

Let me say a few words about Extension.

Its nutrition education program -- the Expanded Food and Nutrition Education Program (EFNEP, or EF-NEP) -- is the major nutrition education program in the Federal government.

EFNEP employs paraprofessionals trained and supervised by professional nutritionists. These paraprofessionals teach low-income families improved dietary practices.

At present, there are 6,500 such nutrition paraprofessionals in EFNEP. They are employed in approximately one-half of U.S. counties.

Since its inception in 1968, EFNEP has reached 1.4 million low-income families -- a total of 6 million individuals.

Although EFNEP is Extension's major effort in nutrition, Extension has other programs that reach people at all income levels -- not just those at low-income levels.

Last year, 4,000 Extension home economists spent 40 percent of their time serving individuals and families at all income levels.

Extension's 4-H youths conducted over 692,000 food and nutrition education projects for the public at large.

Extension used radio and TV, newspaper articles, pamphlets, and conferences in an effort to reach all segments of the public.

It trained elementary teachers, school food personnel, and other professionals.

Our National Agricultural Library's Food and Nutritional Information Center plays an important role. It plans to expand its activities so that it will serve individuals and institutions -- like public schools -- as well as agricultural specialists.

Child Nutrition Program personnel currently make up the largest potential users of its services. Other groups of users are community nutritionists, consultant dietitians, university and college professors, librarians, public health nutritionists, extension agents, and nutrition education specialists.

The Center publishes the "Catalog of Food and Nutrition Information and Educational Materials."

But we in government cannot carry out the nutrition education effort alone. The food industry could help more.

For example, it could draw up an advertising code of ethics for children's advertising. I understand that some advertisers have considered this. I encourage them to follow through.

Parents and teachers could help more. They have to meet us half way.

It's the old story about leading a horse to water.

We can provide the nutrition education materials. But only they can use and apply them.

So as I look ahead to the 1980s, I see a greater cooperative effort in human nutrition research and education.

I see us overcoming public confusion over contradictory information about nutrition and health.

I see Americans better informed about nutrition and health -- and living healthier, happier, and more productive lives.

I see better living through better nutrition.

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